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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,186	06/29/2001	Joshua Levin	PB/5-31481A	9567

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EXAMINER	
MEHTA, ASHWIN D	
ART UNIT	PAPER NUMBER
1638	

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/896,186	LEVIN ET AL.	
	Examiner	Art Unit	
	Ashwin Mehta	1638	

-- The MAILING DATE of this communication app ars on the cov r sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-60* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-15, 18-24, 31, 34-38, 41, 43-50, and 52-55, drawn to an isolated nucleic acid molecule comprising a nucleotide sequence encoding a polypeptide comprising a 3'-5' exonuclease domain; an isolated recombinant nucleic acid molecule comprising said isolated nucleic acid molecule operatively linked to a promoter, in sense or antisense orientation; an expression cassette comprising said nucleic acid molecule, a promoter and terminator; a vector or cell comprising said nucleic acid molecule; or wherein said cell is a plant cell; or wherein said cell comprises a nucleotide sequence of interest, wherein expression of said nucleotide sequence of interest is increased as compared to its expression in a plant cell lacking said expression cassette; a method for stabilizing the expression of a nucleotide sequence of interest in a plant cell or plant comprising obtaining said plant cell and introducing a second nucleic acid molecule comprising said nucleotide sequence of interest, wherein expression of said nucleotide sequence of interest is increased; a plant cell capable of expressing sense and anti-sense RNA molecules of SEQ ID NOs: 1, 3, 5, 7, 21, 9, 11, 13, or 23, wherein said sense and anti-sense RNA molecules are capable of forming a double-stranded RNA molecule, or wherein said cell further comprises a nucleotide sequence of interest; a method of reducing the expression in a plant cell or plant of an endogenous nucleotide sequence that is identical to or substantially similar to SEQ ID NOs: 1,

3, 5, 21, 9, 11, 13, or 23, or encoding a polypeptide that is identical or substantially similar to SEQ ID NOs: 2, 4, 6, 22, 10, 12, or 24, comprising expressing a nucleotide sequence identical or substantially similar to SEQ ID NOs: 1, 3, 5, 21, 9, 11, 13, or 23 in sense or antisense orientation, or both wherein the two encoded RNA molecules form a double-stranded RNA molecule; a method for stabilizing the expression of a nucleotide sequence of interest in a plant cell or plant comprising obtaining a plant cell or plant having reduced expression of an endogenous nucleotide sequence that encodes a polypeptide that is identical or substantially similar to SEQ ID NOs: 2, 4, 6, 22, 10, 12, 14, or 24, and introducing into the plant cell or plant a nucleotide sequence of interest, or wherein expression of said endogenous nucleotide sequence is reduced by expressing in the plant cell a nucleotide sequence substantially similar to SEQ ID NO: 1, 3, 5, 7, 21, 9, 11, 13, 15, 17, or 23 in sense or anti-sense orientation, or both wherein the sense and anti-sense RNA molecules form a double stranded RNA molecule, classified in class 800, subclass 286, for example.

II. Claims 24, 49, and 51, drawn to a plant cell comprising an expression cassette comprising a nucleic acid molecule comprising a nucleotide sequence encoding a polypeptide comprising a 3'-5' exonuclease domain and wherein said cell further comprises a nucleotide sequence of interest, wherein expression of said nucleotide sequence of interest is reduced compared to its expression in a plant cell lacking the expression cassette; a method for reducing the expression of a nucleotide sequence of interest in a plant cell or plant comprising obtaining a plant cell or

plant comprising said expression cassette and introducing a second nucleic acid molecule comprising said nucleotide sequence of interest, wherein expression of said nucleotide sequence of interest is reduced as compared to its expression in a plant cell lacking said first expression cassette, classified in class 435, subclass 69.1, for example, for example.

III. Claims 16 and 17, drawn to an isolated and purified polypeptide comprising or consisting of SEQ ID NO: 24, classified in class 530, subclass 350, for example.

IV. Claims 25-30, 39, 40, 44, 45, 46, 47, 48, 52, 53, 54, 55, 59, and 60, drawn to a plant cell comprising a mutation in an endogenous nucleotide sequence or regulatory region thereof, wherein the endogenous nucleotide sequence is identical or substantially similar to SEQ ID NOs: 1, 3, 5, 21, 9, 11, 13, or 23, wherein expression of said endogenous nucleotide sequence is reduced; a plant comprising said plant cell, or progeny or seeds thereof; a method for reducing in a plant cell the expression of an endogenous nucleotide sequence that is identical to or substantially similar to SEQ ID NOs: 1, 3, 5, 21, 9, 11, 13, or 23, or that encodes SEQ ID NOs: 2, 4, 6, 22, 10, 12, or 24, comprising modifying at least one chromosomal copy of said endogenous nucleotide sequence by homologous recombination or by introducing into said plant cell a chimeric oligonucleotide that is capable of modifying at least one chromosomal copy of said endogenous sequence; a method for stabilizing the expression of a nucleotide sequence of interest in a plant cell or plant comprising obtaining a plant cell or plant having reduced expression of an endogenous nucleotide sequence that encodes a

polypeptide that is identical or substantially similar to SEQ ID NOs: 2, 4, 6, 22, 10, 12, 14, or 24, and introducing into said plant cell a nucleotide sequence of interest, wherein the expression of said endogenous nucleotide sequence is reduced by modifying at least one chromosomal copy by homologous recombination, or introducing into said plant cell a chimeric oligonucleotide that is capable of modifying at least one chromosomal copy of the endogenous nucleotide sequence, classified in class 435, subclass 440, for example.

V. Claims 32, 33, and 42, drawn to a plant cell comprising a mutation in an endogenous nucleotide sequence or regulatory region thereof, wherein the endogenous nucleotide sequence is identical or substantially similar to SEQ ID NOs: 1, 3, 5, 21, 9, 11, 13, or 23, wherein expression of said endogenous nucleotide sequence is increased; or said plant cell further comprising an expression cassette comprising a nucleotide sequence of interest, wherein expression of the nucleotide sequence of interest is reduced as compared to a plant cell lacking the mutation in the endogenous nucleotide sequence; classified in class 435, subclass 468, for example.

VI. Claims 56-58, drawn to a method for identifying a compound capable of interacting with a polypeptide comprising a 3'-5' exonuclease domain; a compound identified by said method, classified in class 530, subclass 387.1, for example.

VII. Claims 45, 48, and 54, drawn to a method of altering the expression in a plant cell or plant of an endogenous nucleotide sequence, comprising expressing in said plant cell a specific ribozyme, classified in class 800, subclass 285, for example.

VIII. Claims 45, 48, and 54, drawn to a method of altering the expression in a plant cell or plant of an endogenous nucleotide sequence, comprising expressing in said plant cell or plant a specific aptamer, classified in class 435, subclass 7.1, for example.

Claims 24, 44-49, and 52-55 will be examined to the extent that they read on the elected invention.

The inventions are distinct, each from the other because of the following reasons:

Inventions I-VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation, functions, and effects. The methods comprising reducing expression of the endogenous nucleotide sequence and increasing or stabilizing expression of the nucleotide sequence of interest, comprising transgenic expression of the enumerated SEQ ID NO in sense and/or antisense orientation of Group I does not require the reduction of expression of the nucleotide sequence of interest of Group II, the isolated polypeptides of Group III, the mutations of Groups IV and V, the identification of compounds of Group VI, the method comprising use of a specific ribozyme of Group VII, nor the method comprising use of a specific aptamer of Group VIII. The reduction of expression of the

endogenous nucleotide sequences and increase in expression of the nucleotide sequence of interest of Groups I, IV, VII, and VIII are not required by the plant cell and method of Group II. The polypeptides of Group III do not require the nucleic acid molecules or methods of any of the other groups. The mutations of Groups IV and V do not require the non-mutated endogenous nucleotide sequences of the other groups. The mutant resulting in a reduction of expression of the endogenous nucleotide sequence and increase in expression of the nucleotide sequence of interest of Group IV does not require the mutation resulting in the increase in expression of the endogenous nucleotide sequence of and reduction in expression of the nucleotide sequence of interest of Group V. The method of identification of a compound of Group VI does not require nucleic acids and methods of the other groups. The method comprising a ribozyme, which acts by cleaving mRNA, of Group VII and the method comprising an aptamer, which acts on polypeptides, of Group VIII do not require each other, or the methods of Group I, which comprise inhibiting expression of the endogenous nucleotide sequences by expressing their sense and/or anti-sense sequences.

Because these inventions are distinct for the reasons given above and the search required for any one of Groups I-VIII is not required for the other, restriction for examination purposes as indicated is proper.

Applicants are reminded that different nucleotide sequences and amino acid sequences are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute **independent and distinct** inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to

represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq.

If one of Groups I, II, IV, V, VII, or VIII is elected, Applicant is required to additionally select a single nucleotide sequence from SEQ ID NOs: 1, 3, 5, 7, 21, 9, 11, 13, 15, 17, or 23 for examination. Should Group VI be elected, Applicant is required to additionally select a single amino acid sequence from SEQ ID NOs: 2, 4, 6, 22, 10, 12, 14, 16, 18, or 24 for examination. This requirement is not to be construed as a requirement for an election of species, since each nucleotide sequence is not a member of single genus of invention, but constitutes an independent and patentably distinct invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication from the examiner should be directed to Ashwin Mehta, whose telephone number is 703-306-4540. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays from 8:00 A.M to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at 703-306-3218. The fax phone numbers for the organization where this application

or proceeding is assigned are 703-305-3014 and 703-872-9306 for regular communications and 703-872-9307 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

ASHWIN D. MEHTA, PH.D
PATENT EXAMINER

September 30, 2002